



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,053	02/14/2002	Reddy Vangala	WC0010-A	8670

7590

05/07/2003

Steven Weseman
CTS Wireless Components
171 Covington Drive
Bloomington, IL 60108

EXAMINER

HAM, SEUNGSOOK

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,053

Applicant(s)

VANGALA ET AL.

Examiner

Seungsook Ham

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-21 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2817

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species 1, figures 1-8, claims 1-21 and 28-32 in Paper No. 7 is acknowledged.

However, it should be noted that claims 3 and 4 are directed to Species II, figures 10 and 11. Thus, claims 3 and 4 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species II.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The subject matter of claims 6-8, 10 ("4.34 decibel"), 11, 30 and 31.

Claim Objections

Claims 12 and 13 are objected to because of the following informalities:

before "antenna pad", --the-- should be inserted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-8, 11, 30 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2817

In claims 6 and 11, "a length" is vague and indefinite as to which length refers to (a length of the dielectric core?).

In claims 7 and 30, "a maximum linear dimension" is also vague and indefinite as to how applicant is defining a linear dimension and how it relates the filter structure of claims 1 and 28, respectively.

In claims 8 and 31, "a surface mount height" and "a thickness" also have the similar indefiniteness as to how this parameters are related to the structure of claims 1 and 28, respectively.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 14-16, 21 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Komazaki (JP '905).

Komazaki (figs. 1 and 2) discloses a duplexer having a filter comprising: a substantially U-shaped core of dielectric material 100, 101, 102 including a transmit arm 100, a receive arm 101 and a base portion 102 joining the transmit arm to the receive arm, each arm having a series of through-holes; a wide area of metallization (i.e., each filter is covered with a ground conductor on the outer peripheral side surfaces), first and second unmetallized areas (open faces 103, 104) surrounding a plurality of through-holes on the outwarding facing surface of the transmit arm and receive arm,

Art Unit: 2817

respectively; a transmit pad, receiver pad and antenna pad metallized areas 108, 107, 109; and a bridge metallized area extending between the transmit arm and the receive arm (connected through a conductive layer on the base portion 102, see also abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-13 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komazaki (JP '905).

The specific size of the filter and operating passband frequency ranges are considered as an obvious design modification to obtain a desired filter characteristics.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Komazaki (JP '905) in view of Ishihara et al. (US '561).

Komazaki (see above) does not show a bridge through-hole extending between the transmit and receive arms. However, such bridge through-hole in a dielectric filter is well known in the art. Ishihara et al. (fig. 10) discloses a filter having a bridge resonator to couple two separate resonators.

It would have been obvious to one of ordinary skill in the art to provide a bridge-hole in the base portion 102 in the device of Komazaki to couple two separate resonators in the transmit arm and the receiver arm since such bridge-hole is well known in the art as shown by Ishihara et al.

Art Unit: 2817

Claims 17-20 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komazaki (JP '905) in view of Agahi-Kesheh et al. (US '335).

Komazaki does not show providing trap resonators in transmit and receive arms. However, providing trap resonators in a duplexer is well known in the art. Agahi-Kesheh et al. discloses a similar duplexer having trap resonators 304, 336 in reception and transmit filters.

It would have been obvious to one of ordinary skill in the art to provide trap resonators in transmit and receive arms in the device of Komazaki to provide attenuation poles as taught by Agahi-Kesheh et al. (col. 9, lines 5-8).

Regarding claims 19 and 20, Agahi-Kesheh et al. (fig. 3) also discloses metallization patterns on reception and transmit filters to obtain desired filter characteristics. Thus, providing metallization patterns similar to applicant's figures 2 and 3 in the device of Komazaki would be an obvious design modification since it is well known in the art to provide metallization patterns on a surface of the dielectric filter to obtain a desired filter characteristic as shown in Agahi-Kesheh et al.

Regarding claim 32, Agahi-Kesheh et al. (figs. 2-4) discloses a bridge resonator hole 350, 358 is capacitively coupled to the antenna pad 392. It would have been obvious to one of ordinary skill in the art to provide a capacitive coupling between the antenna pad and bridge metallized area in the device of Komazaki since such design technique is well known in the art.

Art Unit: 2817

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Frost et al. discloses a multiple filter in a single dielectric block;


Bentivenga discloses a duplexer having a bridge resonator coupled to an antenna; and

Waldo et al. discloses a dielectric filter with a shield.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (703) 308-4090. The examiner can normally be reached on Monday - Thursday from 8:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703)308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.


Seungsook Ham
Primary Examiner
Art Unit 2817

Application/Control Number: 10/076,053

Page 7

Art Unit: 2817

sh

April 29, 2003